

IN THE CLAIMS:

Please amend Claims 29, 36-39, 42, 43, 47, 48, 50, 52 and 53 as shown below. Previously, in a Preliminary Amendment, Claims 1-28 and 54 and 55 were canceled without prejudice. Please cancel claim 35 without prejudice and rewrite it in independent form as new claim 56. Please cancel claim 46 without prejudice and rewrite it in independent form as new claim 57. New claims 58-60 are being presented for consideration.

The following listing of claims will replace all prior versions and listings of claims in the application:

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1-28. (Canceled)

29. (Currently Amended) A method for entrapping plaque particles against a vascular wall at a predetermined intravascular site, comprising the steps of:

providing a radially outwardly deformable, tubular sheath having a proximal end and a distal end;

providing an intravascular deployment catheter having a proximal end, a distal end, and a lumen extending therebetween;

attaching the sheath proximal end to the deployment catheter distal end;

introducing the deployment catheter into the vasculature;

advancing the deployment catheter through the vasculature to position the sheath at the intravascular site; and

expanding the sheath against the vascular wall at the intravascular site to trap the plaque therebetween and to cause the distal end of the sheath to expand to a larger size.

30. (Original) The method of claim 29, wherein the sheath is formed as a unitary part of a distal tip of the deployment catheter.

31. (Original) The method of claim 29, wherein the step of providing an intravascular deployment catheter comprises providing an intravascular deployment catheter having a plurality perforations formed near the distal end of the deployment catheter to allow fluid communication between the outside of the deployment catheter and the deployment catheter lumen.

32. (Original) The method of claim 29, wherein the sheath is comprised of a material selected from the group of materials consisting of polymers, cross-linked materials, and composites.

33. (Original) The device of claim 32, wherein the sheath material has a yield strength of between 50 psi and 300 psi.

34. (Original) The method of claim 33, wherein the sheath material has a break point tensile strength of over 2000 psi.


35. (Canceled)

36. (Currently Amended) The method of claim [35] 56, wherein the deformable member is a wire mesh.

37. (Currently Amended) The method of claim [35] 56, wherein the deformable member is a stent.

38. (Currently Amended) The method of claim [35] 56, wherein the deformable member is a wire coil.

39. (Currently Amended) The method of claim [35] 56, wherein the deformable member is formed from a shape memory alloy having a compressed state for placing within the unexpanded sheath and an expanded state for anchoring the sheath against the vascular wall, and exhibiting a radially outward expansive force when in the compressed state.

 40. (Original) The method of claim 39, wherein the resistance to elastic deformation of the sheath is greater than the expansive force exhibited by the deformable member.

41. (Original) The method of claim 40, wherein the resistance to elastic deformation of the sheath is between 1 percent to 5 percent greater than the expansive force exhibited by the deformable member.

42. (Currently Amended) The method of claim [35] 56, wherein the deformable member is formed from a radiopaque material.

43. (Currently Amended) The method of claim [35] 56, wherein the deformable member is embedded within the sheath.

44. (Original) The method of claim 43, wherein the deformable member is a wire stent.

45. (Original) The method of claim 43, wherein the deformable member is a wire coil.

46. (Canceled)

47. (Currently Amended) The method of claim [46] 57, wherein:  
the step of providing a delivery catheter further comprises providing a  
pusher rod disposed within the delivery catheter lumen to contact the proximal end of the  
intravascular device; and  
the steps of advancing the intravascular device out of the delivery catheter  
comprise withdrawing the delivery catheter proximally along the pusher rod to expose the  
intravascular device and thereby allow it to assume its expanded state.

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48. (Currently Amended) The method of claim [46] 57, wherein the  
intravascular device is a stent.

49. (Original) The method of claim 48, wherein the stent is formed with a  
plurality of apertures, each aperture being no larger than 200 microns across when the  
stent is in the expanded state.

50. (Currently Amended) The method of claim [46] 57, wherein the  
intravascular device is a wire mesh.

51. (Original) The method of claim 50, wherein the wire mesh is formed with a  
plurality apertures, each aperture being no larger than 200 microns across when the wire  
mesh is in the expanded state.

52. (Currently Amended) The method of claim [46] 57, wherein:  
the step of expanding the sheath against the vascular wall comprises  
partially expanding the sheath; and comprising, after the step of withdrawing the delivery  
catheter, the further steps of:

providing a balloon catheter;  
inserting the balloon catheter into the lumen of the deployment catheter;  
advancing the balloon catheter to position the balloon within the  
intravascular device;  
inflating the stent to further expand the intravascular device against the  
vessel wall and entrap the plaque therebetween; and  
withdrawing the balloon catheter from the deployment catheter lumen.

53. (Currently Amended) The method of claim [46] 57, wherein the step of providing a delivery catheter comprises providing a delivery catheter with perforations formed near the distal end of the delivery catheter to allow fluid communication between the outside of the delivery catheter and the delivery catheter lumen.

54-55. (Canceled)

56. (New) A method for entrapping plaque particles against a vascular wall at a predetermined intravascular site, comprising the steps of:

providing a radially outwardly deformable, tubular sheath having a proximal end and a distal end;  
providing an intravascular deployment catheter having a proximal end, a distal end, and a lumen extending therebetween;  
attaching the sheath proximal end to the deployment catheter distal end;  
providing a radially outwardly deformable, tubular member;  
disposing the deformable member within the sheath;  
introducing the deployment catheter into the vasculature;

advancing the deployment catheter through the vasculature to position the sheath at the intravascular site; and

expanding the sheath against the vascular wall at the intravascular site to trap the plaque therebetween; wherein the step of expanding the sheath comprises expanding the deformable member along with the sheath, the sheath contacting the vascular wall and the deformable member contacting the sheath.

57. (New) A method for entrapping plaque particles against a vascular wall at a predetermined intravascular site, comprising the steps of:

providing a radially outwardly deformable, tubular sheath having a proximal end and a distal end;

providing an intravascular deployment catheter having a proximal end, a distal end, and a lumen extending therebetween;

attaching the sheath proximal end to the deployment catheter distal end;

introducing the deployment catheter into the vasculature;

advancing the deployment catheter through the vasculature to position the sheath at the intravascular site;

expanding the sheath against the vascular wall at the intravascular site to trap the plaque therebetween;

providing a delivery catheter having a proximal end and a distal end and a lumen extending therebetween;

providing a self-expanding intravascular device having a proximal end and a distal end and further having a compressed state and an expanded state;

placing the intravascular device in its compressed state within the delivery catheter distal end;

introducing the delivery catheter into the lumen of the deployment catheter;

advancing the delivery catheter through the lumen of the deployment catheter to position the distal end of the delivery catheter adjacent the distal end of the sheath;

partially retracting the delivery catheter to allow the distal end of the intravascular device to expand against the vessel wall at a location distal of the plaque at the intravascular site;

withdrawing the sheath proximally from the intravascular site to expose the distal end of the delivery catheter;

retracting the delivery catheter to allow the entire intravascular device to expand against the vessel wall at the intravascular site and trap the plaque therebetween;

withdrawing the delivery catheter from within the intravascular catheter;

and

withdrawing the intravascular catheter and the sheath from within the vasculature.

58. (New) The method of claim 29, wherein the distal end of the sheath is expanded to a size sufficient to allow a delivery catheter to at least partially deploy and expand an implantable medical device distally from the sheath.

59. (New) The method of claim 29, wherein the sheath is expanded by a balloon catheter.

60. (New) The method of claim 56, wherein the deformable member is embedded into the wall of the sheath.